

Health Alert:

Mumps Outbreak in the Midwest

April 6, 2006

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Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

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Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

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Health Alert
April 6, 2006

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SUBJECT: **Mumps Outbreak in the Midwest**

In the past week, the Missouri Department Health and Senior Services (DHSS) has received information about a number of reports of cases of mumps in Iowa, Nebraska, and Kansas. In particular, Iowa is currently experiencing a large outbreak of mumps, with 364 probable, confirmed, and suspect cases reported from January 1 to April 5, 2006. While most of these reports are from eastern Iowa, cases are now appearing in the western part of the state. Most of the affected patients are college-aged, and approximately 60 percent have had 2 doses of measles/mumps/rubella (MMR) vaccine.

While there have, to date, been no confirmed cases of mumps in Missouri this year, there is now an increased risk for the disease in the state. There are currently two suspect cases in northeast Missouri, for which the laboratory results are not yet available. In addition, a person from Iowa recently diagnosed with mumps was on an airplane flight that stopped in St. Louis. The Centers for Disease Control and Prevention (CDC) and DHSS are investigating contacts.

This Health Alert will provide information on mumps diagnosis and testing, reporting of suspected or confirmed cases, and vaccination recommendations. It will also provide special recommendations to protect health-care workers from infection in the current situation of increased risk, and it will outline mumps infection control measures.

Mumps Diagnosis and Testing

Patients presenting with glandular swelling without other apparent cause should be tested for mumps if the disease is suspected. Contact the Missouri State Public Health Laboratory at 573-751-0633 to obtain guidance on testing, and on specimen collection and submission. **Mumps should not be ruled out in someone who is vaccinated if they have symptoms clinically consistent with mumps.**

Mumps is a viral illness with an incubation period that ranges from 12-25 days, and is usually 16-18 days.

The classic symptom is parotitis, most commonly bilateral. Nonspecific symptoms associated with mumps include myalgia, anorexia, malaise, headache, and a low-grade fever, which may precede parotitis by several days. Orchitis and aseptic meningitis may occur. Fever may persist for 3-4 days and parotitis, when present, usually lasts 7-10 days. Persons with mumps are usually considered infectious from 3 days before until 4 days after onset of parotitis.

As many as 20 percent of cases are asymptomatic, and 40-50 percent may have only nonspecific or primarily respiratory symptoms.

Because mumps outbreaks have occurred in highly vaccinated populations, the diagnosis should not be discounted in persons who have received the vaccine. Possible explanations of mumps disease in immunized persons include:

1. Primary vaccine failure: Not everyone seroconverts and develops immunity following vaccination.
2. Vaccine mishandling: There may be primary vaccine failure due to deteriorated vaccine if it has not been stored properly with cold chain maintenance.
3. Waning of immunity, which seems less likely in persons who have been vaccinated in the recent past.

Reporting of Suspected or Confirmed Cases of Mumps

Mumps is reportable to public health officials within 3 days of detection or diagnosis according to the Missouri Code of State Regulations, 19 CSR 20-20.020. Health care providers, including physicians, hospitals and laboratories, should **report persons with suspected or confirmed mumps to the local public health department, or to DHSS at 573-751-6133, 866-628-9891, or 800-392-0272.**

Mumps Vaccination

Two doses of mumps vaccine, given as combination MMR vaccine and separated by at least four weeks, are routinely recommended for all children. The first dose should be given on or after the first birthday; the second is routinely given at 4-6 years of age. Mumps-containing vaccine given before 12 months of age should not be counted as part of the series. Those vaccinated with mumps-containing vaccine before 12 months of age should be revaccinated with two doses of MMR vaccine, the first of which should be administered when the child is at least 12 months of age. At this time, CDC, the Advisory Committee on Immunization Practices (ACIP), and DHSS are not recommending giving the first dose of MMR vaccine to children under 12 months of age. Nor do they recommend giving the second dose early.

MMR is a live, attenuated vaccine. Pregnant women and persons with immunodeficiency or immunosuppression should not receive live attenuated vaccines. Pregnancy should be avoided for four weeks following MMR vaccine. Close contact with a pregnant woman is NOT a contraindication to MMR vaccination of the contact. Breastfeeding is NOT a contraindication to vaccination of either the woman or the breastfeeding child.

Because MMR is a live vaccine, proper handling is important to maintain its efficacy. Information on vaccine handling and storage is available at: http://www.cdc.gov/nip/publications/vac_mgt_book.htm#mmr.

An excellent discussion of mumps and mumps vaccine is available at: <http://www.who.int/vaccines/en/mumps.shtml>.

Please contact DHSS at 573-751-6439 for information about vaccination.

Special Recommendations to Protect Health Care Workers from Mumps

Persons with mumps are likely to seek treatment at health care facilities, and such facilities can be high-risk settings for transmission of mumps virus to health care workers and to vulnerable patients. To protect health care workers and to avoid significant disruption in health care delivery from potential infections, **DHSS is recommending that all health care institutions (e.g. inpatient, outpatient, public and private) ensure that those who work within their facilities are immune. Specifically, it is recommended that:**

- **Health-care workers under 65 years of age should have proof of immunity through 1) documentation of having received two doses of a vaccine (such as MMR) containing mumps antigen, with the first dose given on or after the first birthday, and the second dose given at least 28 days after the first, or 2) laboratory evidence of immunity.**

If neither of these criteria is met, the health-care worker should receive one or two doses of MMR vaccine, as appropriate. If two doses are required, the second dose may be administered as soon as 4 weeks (i.e., 28 days) after the first dose. Even though MMR is a live-attenuated vaccine, health care workers can receive the vaccine and still work with patients.

Note that these recommendations are made in the context of the outbreak of mumps being seen in states adjoining Missouri. Normally, persons born before 1957 are considered to be immune to mumps as a result of natural infection. However, this 1957 cut-off date is arbitrary, and given the increased risk of exposure to mumps that Missouri health-care workers may be experiencing, it is believed that this more conservative approach is prudent, and will provide the best possible protection for both health-care workers and their patients. While DHSS does not have specific regulatory requirements for the vaccination of health-care workers, the department strongly recommends use of vaccine, as described here, in health-care workers who lack documented immunity to mumps. Finally, these recommendations, which are generally similar to those issued in Iowa and Nebraska, have been reviewed with experts at CDC, and they are in agreement with this approach.

- **Health-care workers 65 years of age and older most likely have natural immunity to mumps due to past disease. They do not need specific proof of immunity, and are not recommended to receive vaccine.**

Mumps Infection Control Considerations

Mumps virus replicates in the nasopharynx and lymph nodes of the infected person. Transmission is airborne or through direct contact with infected droplets or saliva. The incubation period varies from 12-25 days and is usually 16-18 days. The virus may be present in saliva for 6-7 days before signs/symptoms of parotitis appear, and may persist for as long as 9 days after onset of disease. Transmission has not been documented from an infected person beyond 4 days following onset of symptoms. Infected persons may be infectious for 12-25 days after their exposure, and many infected persons remain asymptomatic. **Specific infection control recommendations are the following:**

- **Droplet precautions are recommended for patients with mumps. Such precautions should be continued for nine days after the onset of parotitis.**
- **If exposed to mumps, health-care workers who lack acceptable evidence of immunity (see the preceding section) should be excluded from the health-care facility from the 12th day after the first exposure through the 26th day after the last exposure.**
- **Health-care workers in whom the mumps develops should be excluded from work until nine days after the onset of parotitis.**

Contact Information

Reporting disease: local public health agency (directory at <http://www.dhss.mo.gov/LPHA/LPHAs.html>), or DHSS at 573-751-6133, 866-628-9891 or 800-392-0272.

Missouri State Public Health Laboratory at 573-751-0633.

Immunization information from DHSS at 573-751-6439.

Links to Important Information

The Advisory Committee on Immunization Practices (ACIP) recommendations:

- Immunization of Health-Care Workers: <http://www.cdc.gov/mmwr/preview/mmwrhtml/00050577.htm>
- Measles, Mumps, and Rubella Vaccine: <http://www.cdc.gov/mmwr/preview/mmwrhtml/00053391.htm>

Information on mumps disease and vaccine from CDC: <http://www.cdc.gov/nip/publications/pink/mumps.pdf>

Information on disease investigation from CDC: <http://www.cdc.gov/nip/publications/pink/mumps.pdf>

Because MMR is a live vaccine, handling of it is important to maintain its efficacy. Information on handling and storage of this vaccine: http://www.cdc.gov/nip/publications/vac_mgt_book.htm#mmr

Excellent discussion about mumps and mumps vaccine from the World Health Organization (WHO): <http://www.who.int/vaccines/en/mumps.shtml>

Information on reporting mumps cases in Missouri: <http://www.dhss.mo.gov/CDManual/CDManual.htm>

Excellent information from other states on the disease, its incidence, and vaccination:

- Iowa Public Health Department: <http://www.idph.state.ia.us/>
- Nebraska Health and Human Services: <http://www.hhs.state.ne.us>